

Benjamin F. Dykstra

DATA SCIENTIST

Williamsburg VA · Boston MA

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"Data Rules Everything Around Me"

Education

College of William and Mary

Williamsburg, VA

B.S. IN COMPUTATIONAL APPLIED MATHEMATICS AND STATISTICS

2013 - May 2017

- GPA 3.42
- **Areas of interest/research:** Linear Regression of all types, boosting methods, neural nets, agglomerated clustering, topic modeling, geolocation, maximum likelihood estimation, ensembling and of course, classification

Skills

Programming: Python, Java, C, R, C++,

TECHNOLOGICAL TOOLBOX:

- **Python:** pandas, numpy, sklearn, statsmodels, [hierarchical clustering](#), [keras](#), [xgboost](#), pyspark, [plotting packages](#)
- **R:** raster, maptools, rgdal, jsonlite, nlme, rjson, SCi2
- **Java/Android:** Developed Android application game over the course of semester
- OO class design and implementation, including abstraction techniques, debugging techniques, defensive programming, development and analysis tools, and testing

Data Science Experience

ForRent.com

Norfolk, VA

DATA SCIENCE INTERN

Summer 2016

- Leveraged boosted tree regression to identify promising potential customers and their traits. Sales team then used those findings to boost and target sales.
- Cluster analysis on data to visualize hidden relationships/structure. Revealed previously unknown relationships to management, providing deeper understanding of interactions between features.
- Integrated search data into simulation to model market saturation and identify over/under-performing markets
- Implemented a long-short term memory (LSTM) recurrent neural net to predict customer churn, based on previous months of data. Able to achieve 94 % recall rate in identifying a churn in an extremely unbalanced dataset
- Geographic search visualization, Andrews curves
- Built elasticsearch queries, exploited cloud computing capabilities with PySpark

Winner Dominion Enterprises Hackathon

February 2016

- Team won a 20,000 dollar scholarship out of a highly competitive pool of participants
- Created an iOS app called [astÜte](#) that lets students post study groups
- Filtering based on past searches, current courses etc.
- Option to share files

AidData and Math Department

Williamsburg, VA

STATISTICAL RESEARCHER

Summer 2015

- Produced new knowledge to track money after it was allocated to a geographic area and determined what the impact of that money was.
- Developed a metric that describes the probability that a geographic area receives international aid
- Created impact evaluation framework that incorporated this probability
- Part of EXTREEMS-QED, a competitive research program funded by the National Science Foundation
- Operated in a distributed HPC Linux environment

Qpharmetra Pharmacometric Consulting

Andover, MA

INTERN

Summer 2014

- Seminal experience that exposed me to the world of data and modeling, motivating me to become involved in data science.
- Studied the pharmacodynamic modeling process.
- Cataloged working hours and analyzed working capacity for company.
- My findings painted a better picture of employee working hours and were used to give better time estimates for clients.

Research

STAIR Lab (Systematic Text Analysis in International Relations)

Spring 2016 - Present

- Improved automated geolocator using natural language processing and fuzzy search
- Automate identification of where International Aid was located from grant documentation
- Sentiment analysis on Australian newspapers in relation to immigration and refugees
- Topic Modeling in International relations
- Modeled the distribution of topics in International Relations literature using unsupervised learning techniques

Leadership Experience

Breaking Intuition Seminar

Williamsburg, VA

TEACHER'S ASSISTANT

Fall 2015

- Aided students in learning how to program in R and navigate through an introductory freshmen level course
- Assisted in developing course work, labs and grading standards

The Delta Chi Fraternity

ASSOCIATE MEMBER COUNSELOR

Fall 2014 - Spring 2015, Fall 2016

- Educated new members on our fraternity values and history
- Coordinated and led 17-person weekend camping trips up a 3,400-foot mountain